

What is claimed is:

1. A composition suitable for use as a traction fluid, comprising a substantially completely hydrogenated addition product of

5 (a) at least one olefin monomer containing a cyclic hydrocarbon structure, with

(b) at least one non-cyclic olefin monomer of at least 4 carbon atoms, provided that if the non-cyclic olefin monomer is monounsaturated, then it contains at least 5 carbon atoms.

10 2. The composition of claim 1 wherein said hydrogenated addition product is a dimer or oligomer comprising up to about 10 total units of monomers (a) and (b).

3. The composition of claim 1 wherein said hydrogenated condensation product has a Brookfield viscosity of less than about 70 Pa-s (70,000 cP) at
15 -30°C.

4. The composition of claim 1 wherein the olefin monomer of (a) contains a vinyl group which (i) is attached to an aromatic ring or which (ii) bears an α -substituent.

5. The composition of claim 1 wherein component (a) is a vinyl arene.

20 6. The composition of claim 5 wherein the vinyl arene is styrene, α -methylstyrene, or a ring-alkylated styrene.

7. The composition of claim 1 wherein component (a) is a cyclic terpene.

25 8. The composition of claim 7 wherein the cyclic terpene is α -pinene, β -pinene, limonene, α -terpinene, β -terpinene, or β -phellandrene.

9. The composition of claim 1 wherein the non-cyclic olefin monomer (b) contains 1, 2, or 3 ethylenic double bonds.

30 10. The composition of claim 1 wherein the non-cyclic olefin monomer (b) is a non-cyclic monomer selected from the group consisting of linear and branched hexenes, linear and branched octenes, linear and branched decenes, propylene trimers, propylene tetramers, and isobutylene dimers, trimers, and tetramers.

11. The composition of claim 1 wherein the non-cyclic olefin monomer (b) is isoprene or 1,3-hexadiene.
12. The composition of claim 1 wherein the non-cyclic olefin (b) is a non-cyclic terpene.
- 5 13. The composition of claim 1 wherein components (a) and (b) each comprise about 10 percent to about 90 percent by weight of the total of all monomers present in the addition product.
- 10 14. The composition of claim 1 wherein (a) is at least one vinyl aromatic monomer and (a) comprises 40 to 80 weight percent of all monomers present in the addition product, and (b) comprises 60 to 20 weight percent of all such monomers.
- 15 15. The composition of claim 1 wherein said fluid is prepared by the acid-catalyzed addition reaction of the monomers of (a) and (b).
- 15 16. The composition of claim 15 wherein said addition reaction is conducted in the presence of a solvent.
- 20 17. The composition of claim 1 further comprising at least one additive selected from the group consisting of dispersants, detergents, friction modifiers, antioxidants, metal passivators, viscosity modifiers and antiwear agents in an amount sufficient to improve the performance of said composition in a power transmission device.
- 25 18. The composition of claim 1 further comprising an oil of lubricating viscosity other than said hydrogenated addition product.
- 30 19. The composition of claim 1 further comprising at least one additional traction fluid.
- 20 20. The composition of claim 1 comprising a plurality of said hydrogenated addition products having differing viscosities.
21. A method for lubricating a power transmission apparatus, comprising employing therein the composition of claim 1.
22. A method for preparing a composition suitable for use as a traction fluid, comprising:
- (a) combining
- (i) at least one olefin monomer containing a cyclic hydrocarbon structure, with

(ii) at least one non-cyclic olefin monomer of at least 4 carbon atoms, provided that if the olefin monomer is monounsaturated, then it contains at least 5 carbon atoms; and

(iii) an acid catalyst;

5 (b) maintaining the resulting mixture at about 25°C to about 150°C for a time sufficient to permit reaction of components (a)(i) and (a)(ii);

(c) optionally removing the volatile components from the product of (b);
and

(d) substantially completely hydrogenating the resulting reaction product.

10 23. The method of claim 22 wherein the acid catalyst is a sulfur acid, a phosphorus acid, or a halogen acid.

24. The method of claim 22 wherein the acid catalyst of (iii) is a heteropolyacid in its acid, salt, or partially salted form.